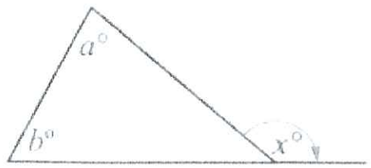
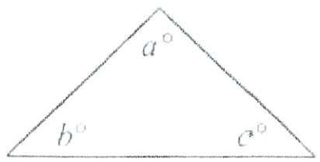
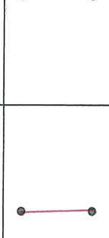
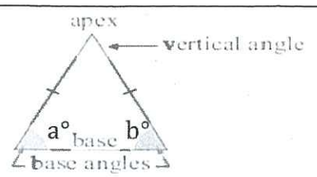
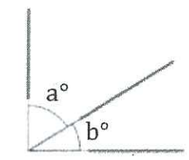
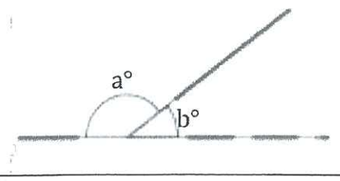
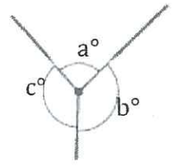
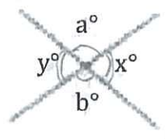
Section E (Angles of lines and triangles)

Diagram		Theorem (Name / Equation / Abbreviation)
		➢ The sum of angles in a triangle ➢ a + b + c = 180° ➢ (∠s sum of Δ)
		➢ Exterior angle of a triangle equals to the sum of its two oppostie interior angles ➢ a + b = x ➢ (*ext* ∠ of Δ)
		➢ Isosceles triangle's base angles are equal ➢ a = b ➢ (base ∠s, isos. Δ) ➢ The line joining the apex to the mid point of the base is perpendicular to the base
		➢ Sum of all angles at a point equal 360° ➢ a + b + c = 360° ➢ (∠s *at a pt.*)
		➢ A pair of angles who are complementary and whose sum equal 90° ➢ a + b = 90° ➢ (comp. ∠s)
		➢ A pair of angles who are supplementary and whose sum equal 180° ➢ The sum of adjacent angles on a straight line equal 180° ➢ a + b = 180° ➢ (∠s *on st. line*)
		➢ Vertically opposite angles are equal ➢ a = b or x = y ➢ (*vert. opp.* ∠s)

Line and Angle
Key terms and summary

Section A (Basic terms)

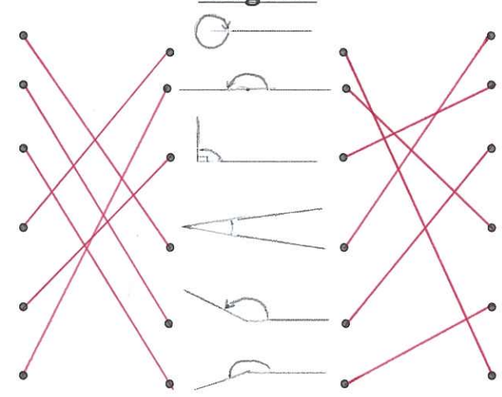
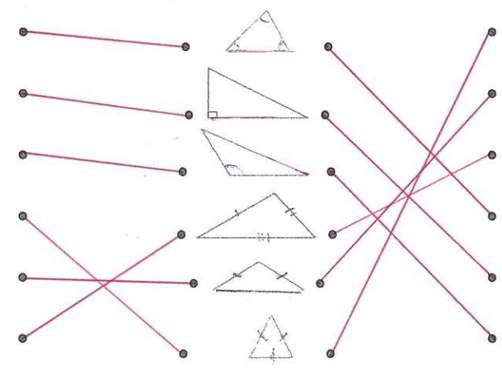
Suggested answer.

Draw a simple diagram for each of the term and label it appropriately.

Term	Meaning	Diagram
Points	➢ does not have shape and size ➢ normally label with a capital letter	A B X
Lines	➢ has no thickness or breadth, only has length ➢ can be extended in both direction without end	
Straight line	➢ connects two points via the shortest path	C D CD
Curve	➢ a continuously bending line, without angles	C D CD
Plane	➢ a flat or level surface	radius O-centre any 2D shapes A B C
Ray	➢ one end is fixed ➢ the other end can be extended infinitely	A AB B
Line segment	➢ a part of a line with two end points ➢ labeled with two capital letters (e.g: AB, BA)	A B BA AB
Angle	➢ can be form by the following three ways: 1. two rays from a point 2. rotation 3. two lines intersecting each other	angle arm vertex arm A B C ∠ABC a

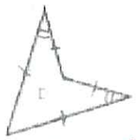
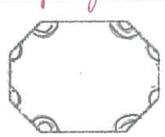
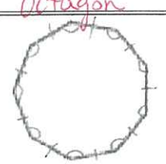
Section B (Types of angles and triangles)

Match the term with its diagram and then match the diagram with its meaning.

Term	Diagram	Meaning
Acute angle		Less than a ¼ turn (angle size between 0° and 90°
Obtuse angle		¼ turn (90°)
Reflex angle		Between a ¼ turn and ½ turn (angle size between 90° and 180°)
Revolution / Round angle		Half turn (180°)
Right angle		Between a 1/2 turn and 1 turn (angle size between 180° and 360°)
Straight angle		One complete turn (360°)
Acute angled triangle		All sides are equal in length
Right angled triangle		Two of its side are equal in length
Obtuse angled triangle		None of its side are equal in length
Equilateral triangle		All its angle are acute
Isosceles triangle		One of its angle is right angle
Scalene triangles		One of its angle is obtuse

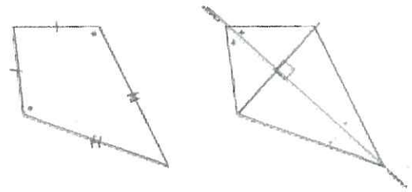
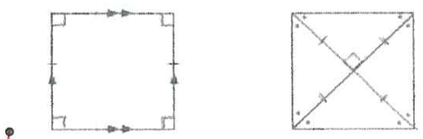
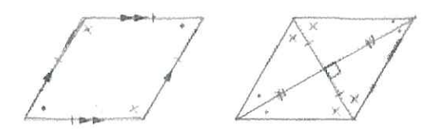
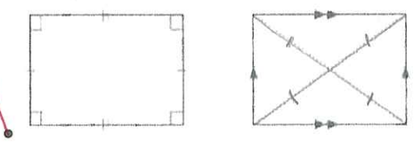
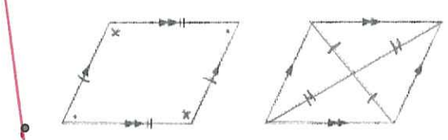
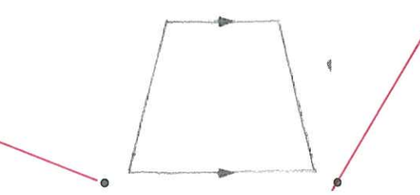
Section C (Polygon)

a. Write the name of the polygon under its diagram (The first one have been done for you)
b. Tick '✓' the appropriate boxes which match with the terms, put a '✕' if it doestn't match

Polygon	Number of sides	Convex polygon	Concave polygon	Equilateral polygon	Equiangular polygon	Regular polygon
 Triangle	3	✓	×	×	×	×
 (quadrilateral)	4	×	✓	✓	×	×
 (Pentagon)	5	✓	×	✓	✓	✓
 (Hexagon)	6	✓	×	×	×	×
 (Heptagon)	7	×	✓	×	×	×
 (Octagon)	8	✓	×	×	×	×
 (nonagon)	9	✓	×	✓	✓	✓
 (decagon)	10	×	✓	✓	×	×

Section D (Special Quadrilaterals)

Match the quadrilateral with its diagram and its properties

Name	Diagram	Properties
Kite		➢ Opposite sides parallel ➢ Opposite sides are equal ➢ Opposite angles are equal ➢ Diagonals bisect each other (divide each other in half)
Parallelogram		➢ Four equal angles of 90° ➢ Opposite sides are equal in length ➢ Diagonals are equal in length ➢ Diagonals bisect each other (divide each other in half)
Rectangle		➢ All sides are equal ➢ Opposite sides are parallel ➢ Opposite angles are equal in size ➢ Diagonals bisect the angles at each vertex ➢ Diagonals bisect each other at right angles
Rhombus		➢ Four equal angles of 90° ➢ All sides are equal ➢ Opposite sides are parallel ➢ Diagonals bisect the angles at each vertex ➢ Diagonals bisect each other at right angles
Square		➢ Has a pair of parallel opposite sides
Trapezium		➢ Has two pairs of adjacent sides equal ➢ One pair of opposite angles is equal in size ➢ Diagonals cut each other at right angles ➢ One Diagonal bisects one pair of angles at the vertex